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THE DUKE PICKING UP AND EXAMINING ARCHIE'S COPY OF NEWTON'S "PRINCIPIA."

ARCHIE CAMPBELL;
OR, THE POWER OF THE ALPHABET.

CHAPTER VI.

READER, were you ever travelling, on a hot scorching day, over a wide expanse of arid coun-
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try, and, as the sun was pouring his fervid beams upon your head, and your "soul was fainting within" you from thirst and weariness, did you ever find a cool water-spring by the roadside, and quaff the refreshing draught until your sinking

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nature seemed renewed? Some such sensation was experienced by Archie Campbell on the strange meeting with the friend of his infancy. The dryness of his intellectual being seemed suddenly invigorated by the outpouring of the stream of generous sympathy which gushed from the old man's heart; and he soon laid bare the secrets of his bosom, as if to the confidence of a fond parent.

"We must leave you now, my young friend," said Mr. Baird, after an hour's sweet and pleasant converse. "The storm is over, and our friends will be anxious at our absence; but, before another week passes, we must meet again. I will drive over with my daughter, and spend a whole day with you. Mr. Donaldson will, no doubt, grant you a holiday. We must finish our consultation about this book of yours."

The pony carriage had been brought round to Archie's cottage, and his friends soon afterwards drove away.

Much surprise and interest were excited by Archie's narrative, when he at length joined the tea-party at the garden-house; and when James Muir and his wife returned home with him, the former warmly congratulated his friend.

"Your fortune is made, Archie, if Mr. Baird gets an Edinbro' bookseller to buy your translation. Ay, ay, ye'll see; we shall soon hae ye in the toon, amongst the 'big wigs,' and then ye'll be wanting a wife. What do you say to little Mary Barnes? She took an unco' fancy to you."

It was well for him that his wife had retired before he thus jested with her sister's name. Archie turned away, half vexed at his friend's railery on what he had begun to feel was rather a weak point with him.

"Come, come, man, dinna be fashed," resumed James. "I suppose ye think she would na be good enough for sic a gran' author."

"Dinna be sae daft, Jamie," replied Archie. "Ye ken weel that I hae a great respect for Miss Barnes; but, may be, I'll never marry—I hae little time to think o' sic things."

"Time will show," replied James, drily; and the subject dropped.

"Well, now I think we may try our chance with one of the great Edinburgh booksellers. Your book is finished, and, if I am not much mistaken, is well worth printing. What say you to a trip to 'Auld Reekie?' Will Mr. Donaldson spare you for a week?"

It was Mr. Baird who spoke, as he sat by Archie's side in the "litter room," where he had carefully perused and revised his manuscript. Many months had flitted by since their first happy meeting, and the old man had shown unremitting interest in the progress of his young friend. He had been visiting a married daughter at the time they first met, and had since secured a small house in the neighbourhood, where his time was divided between her and his orphan *protegé*, as infirmity had compelled him to give up the active duties of his profession.

"I would not publish under my own name this first time, Archie," advised his friend; "there is always prejudice to encounter, and envy to detract from merit; and if the book came out as 'translated by the under-gardener of the Duke of A—,'

I fear we should have both these feelings in full operation. Besides, an anonymous author is sure to awaken curiosity and excite a degree of interest. Who knows but that you may be designated as 'the great Unknown?'"

Archie smiled, and answered modestly, "Do as you please, sir; you're sure to be right."

The consent of Mr. Donaldson having been readily obtained on his participating in their secret, the two friends made their first essay in bookselling. It proved more successful than Archie's humility had even dreamed of. A few months would intervene, and then he would "see himself in print," and hoped to pocket a tangible proof of Mr. B—'s appreciation of his talents.

The old castle had at length received its intended alterations and additions. The donjon keep still frowned above the battlemented heights; the dark weather-stained walls retained in parts the picturesque ivy; whilst the new buildings, with their fresh-cut masonry standing out in bold yet delicate lines, clung lovingly to the venerable pile, just

"Like a chieftain, grim and grey,
Wi' a young and bonnie bride."

Mr. Morton came down, and surveyed his work with pardonable delight and satisfaction. The masons and carpenters were all paid off, and their places supplied by painters and decorators, who, in their turn, were shortly to be succeeded by upholsterers. All gave note of a change and stir in the old structure, such as had never been before. The duke's eldest daughter was shortly to be married to the rich and talented heir of a neighbouring domain, and there were to be grand rejoicings in the ensuing summer.

And how felt Archie at the anticipation? He was both pleased and nervous at the thought of again coming into association with Mr. Morton and his family. Had Mr. Morton forgotten or neglected him? Neither. He was ever kind and friendly. He was still grateful to the young gardener for having, years back, preserved the life of his child at the risk of his own, and he wished her to cherish a similar sentiment. He had felt interested in him as an intelligent self-taught youth, anxious to acquire information; but he had formed no idea of the depth of that information or of the extent of his abilities. That beneath that rustic garb there breathed the soul of genius, and the fixed resolution to rise on its "eagle wings" to a distinguished position in society, had never crossed his thoughts.

"We shall see you again soon, Archie," were almost his last words. "Mind you have Miss Ellen's little garden in trim order; for although she is nearly a woman now, she retains her liking for all the spots identified with her childish pleasures in this far-off spot."

"He still thinks of me only as the gardener," thought Archie, half reproachfully, forgetting that he had never told him of the great progress he had made in the acquisition of learning, and of his attempt at authorship. His only words aloud were: "Miss Ellen did not write to me this time, sir."

"She had no leisure; her friend Miss Dolby is with her for a month, and the girls are in a per-

feet whirl of engagements; but she sent her kind remembrance to you, and promises a letter next week."

The letter came, and spoke so kindly of the anticipated pleasure of seeing him, that he felt assured Miss Dolby had not corrupted her mind with silly pride; and so he gladly sowed the little garden with seeds which should produce the gayest and the sweetest flowers, and he scrubbed and brushed the alcove on the sea-shore into almost dazzling whiteness, and weeded all the walks around the lily-covered pool, that she should see her humble friend Archie had not forgotten what would please her who, even as a child, had struck the keynote of his intellectual aspirations, and, in later years, had given a definite bias to his crude ideas.

"Here is good news for you, my dear boy," cried the cheerful voice of Mr. Baird, as he entered the cottage one evening. "Mr. B—— has written me word that two copies of your book are on the road, for you and me. It has already made a sensation in Edinburgh; two of the professors have called to ask the author's name, and the reviewers have spoken favourably of it. In another month you will receive the promised remittance."

Archie felt almost choked, and, when his old friend wrung his hand in sympathy, the tears rushed to his eyes, and he was fain to turn aside to hide his emotion.

The establishment at the castle was about this time thrown into great excitement by the unexpected arrival of the duke. He came down for the purpose of inspecting the alterations and improvements prior to their being pronounced complete, and contented himself, in the most unostentatious manner, with the inferior accommodations which could be offered. A pause in the working of the great state machine allowed him this opportunity, and he appeared thoroughly to enjoy the temporary release from pomp, ceremony, and splendid toil. Each morning he might be met in the grounds, wandering forth in an easy deshabille, surveying the points of grand or peaceful beauty which their varied scenery presented, and conversing affably with any of the labourers or workmen who crossed his path.

One day, when thus enjoying his stroll, he caught sight of a book lying on the grass, and stooped to pick it up. To his surprise, he found it was an edition of Newton's "Principia," and, naturally concluding it belonged to his own library, and had been thus carelessly left by some guest, he looked round for some one to convey it to the house at once. At a little distance stood Archie Campbell, busily employed training some climbing roses round the entrance to a rustic bower.

Here, my man, I want you," exclaimed his Grace.

Archie turned round, and touched his cap.

"Take this book back to the castle, and tell the servant in the hall to put it on my library table. I must inquire who is so careless with such valuable books."

"Please your Grace, that book is mine," said Archie, bowing and blushing.

"Yours! What, can you read Latin?" was the astonished question.

"Yes, your Grace," was the simple reply.

"And are you sufficiently acquainted with mathematics and geometry to understand Newton?"

Again Archie modestly answered in the affirmative.

"This is most strange and wonderful. I must know more of this. Follow me;" and the duke walked rapidly towards the castle. "Come into the library with me." And in a minute the noble peer and the humble rustic were seated opposite each other, to the utter amazement of the powdered lackey, who saw his master motion Archie to a chair, before he closed the door upon the unusual interview.

The Duke of A—— added to his diplomatic talents a general knowledge of every science which can adorn the mind of a great man, and he felt respect for intellect and energy, by whomsoever they were possessed. His curiosity and interest were alike awakened in the case before him, and he inquired so earnestly, yet courteously, into the means whereby his young gardener had acquired such knowledge, that Archie threw aside his timidity, and, with the grace of truth and simplicity, told the artless history of his life.

The duke listened with attention and momentarily increasing interest.

"That is how I first learned arithmetic and geometry, your Grace," he said, after narrating his acquaintance with Mr. Smith; "and then I found by reading, that there were some good books on these subjects in Latin; so I bought a dictionary and learned that language. I then understood that there were clever books in the same sciences in French, and I bought a dictionary and a grammar, and taught myself French; and this, my lord duke, is how I have learned the little which I know. The words of my friend and only master, when I was not quite nine years old, have been my guide and my incentive: 'By the help of the twenty-four letters we may learn what we choose.'"

The duke was delighted with the mingled *naïveté* and humility of the young man.

"You must not waste your talents any longer in this obscurity," he said kindly. "I will place you in a position where you can cultivate them as they deserve. What say you; will you be my librarian when the castle is finished?"

"Your Grace is too good to a poor lad. It would make me the happiest and most grateful of men."

"Then be it so. In two months' time I shall probably be down again. Let me find you here; and no doubt you will have found some old and new friends around you"—pointing to the well-filled book-shelves—"to while away the hours."

Archie expressed his thanks as well as he was able.

"That is enough," said the duke, waving his hand. "I will let the people know the change in your situation, and—and—I need scarcely say you will, of course, dress in accordance with your new position."

"May I ask one great favour, in addition to your Grace's kindness? namely, to be allowed to retain the humble cottage where I have spent so many happy hours?"

"Oh! yes, yes, certainly. Now go and tell Mr. Donaldson he must look out for another

assistant in the gardens." And the kind, great man smilingly dismissed his new *protégé*, to the great relief of Archie's overwrought feelings.

A few hours later found him seated in his little retreat, pouring into the willing ear of Mr. Baird the extraordinary turn which had taken place in his fortunes.

"The hand of God is in it, my dear boy," said the old man, piously. "He sent you here, to this distant spot, to find the friend of your infancy and the patron of your future years. Praised be his name!" And the grateful youth echoed the words of his venerable friend.

A month went by, and the ex-gardener was transformed into the librarian. The duke, with thoughtful kindness, had written to invite Mr. Baird to stay a week or two with his young friend, to initiate him into the duties of his office; and Archie's innate taste and good breeding soon made him at ease in his new station, in which he conducted himself with so much modesty, that even the labourers and menials felt respect, instead of envy, at his advancement, whilst Mr. Donaldson rejoiced at it with all his heart, and James Muir sent the warmest congratulations.

From Mr. Morton and his daughter he alone withheld the communication. He wished to make it in person, after having first seen how they felt and acted towards him in the presence of the high and titled society so soon expected.

And now all was bustle and preparation. The upholsterers unpacked their bulky cases, and placed their rich and costly contents in gorgeous profusion through the rooms, which were soon glittering with gilding, flashing with mirrors, and rustling with silken hangings. All that art, luxury, and elegance could produce, found there an abiding place; and when the ducal owner arrived and installed his daughter queen of the fairy scene, the vision of splendour and loveliness seemed to have reached perfection. Guests arrived daily. Peers and senators, with their wives and daughters, now thronged the gay saloons, now sauntered through the grounds, and all was pleasure and enjoyment.

The young librarian alone seemed dull; for, although the duke wished him to mix freely with his guests, he laid no restraint upon his actions, and Archie spent more hours in his own quiet little study than in the stately rooms at the castle. The truth was, he felt the want of real friends, to whom he could communicate his feelings, and feel sure of a reciprocity of sentiment; these he had been fondly expecting in the persons of Mr. Morton and his family, but day after day went by, and he heard no tidings of their expected arrival.

A short note from Mr. Morton to the duke at length reached —, with apologies for the delay in their visit, which he hoped would take place in about another fortnight. Archie felt secretly pleased at this arrangement. Most of the fashionable throng would then be gone, and he should enjoy their society alone; which, after all his theories about testing their friendship in the grand circle of visitors, he acknowledged to himself would relieve him from an embarrassment which had been lately rising up in his mind. It was just this: so many years had passed since he had had any personal

communication with the female part of the Morton family, that a sort of timidity or shyness had mingled with the interest he felt in their approaching meeting.

True, the correspondence between himself and Ellen Morton had been of the most familiar and pleasant style; but he had been so accustomed to bring her image before his memory as the childish friend of his own untutored youth, that to anticipate a meeting before strangers with a grown-up young lady, fresh from the formalities of the schoolroom, often presented itself to his fancy as a very formidable affair. He esteemed and regarded her as one of his earliest and truest friends. At a distance he thought of her almost as a sister. As such he longed to see her; and yet—strange contrariety of the human heart—he almost dreaded a meeting which might make realities less pleasant than past remembrance or present fancies. Something of this conflicting state of mind broke forth in a speech to Mr. Baird, after telling him of the note the duke had received from Mr. Morton.

"I hope Miss Ellen won't be much changed, either in manners or appearance, when she comes down," he said, somewhat nervously; "I think all changes will be for the worse."

His old friend laughed: "Do you think Miss Morton has not grown in the last eight years, Archie? Do you expect that a young lady, about to be presented in society, will run about the castle grounds with the wild animal spirits of a child twelve years of age? No, no, Archie; depend upon it, there will be no torn frocks from scrambling up and down the rocks this time."

Archie smiled in return.

"If that is all the change, I shall not mind; but I wish they would come at once, and get this first awkward meeting over."

Dinner parties within doors, *fêtes champêtres* without, fishing and boating excursions, all had been tried and exhausted, and now the guests began to disperse. The young earl and his bride were on the wing for a southern tour, and the duke meditated a cruise amongst some of his island property before returning to the great metropolis.

"Here, Campbell," cried his Grace, entering the library one day with his hands full of papers, "just answer these letters for me; I really have not time for all, and this one from your friend Mr. Morton I must reply to myself. I find he has obtained the appointment I solicited for him from the new governor, and consequently will have to go out forthwith to India."

"Going to leave England, your Grace!" exclaimed Archie; "and will he take his family with him?"

"I suppose so; I should think it most probable, as it is an appointment which will last some years. But don't look so sorrowful, Campbell; you may see your friends again, even before they start, for it is likely enough that they will come down here for a week or so. But now, be quick with your letters, my young friend; they are of consequence to be answered to-night."

And with less alacrity than he had ever felt before in fulfilling the wishes of his patron, Archie sat down to his task; but though he completed it within the given time, his thoughts had often

wandered, and when the letters were deposited in the bag, he walked to the little alcove, that in silence and solitude he might hold self-communion, and adjust the balance of his trials and his blessings. In this retreat the whole retrospect of his life came before him.

He well remembered his first sorrow, when the death of his grandfather had rendered his aged partner and himself homeless, and they wandered forth to seek friends and the means of honest livelihood, both of which had been granted to him. James Muir had proved deserving of the sacred name of friend, then and ever since. Then came the remembrance of his first three years' residence at —, when, as an ignorant rustic lad, he had toiled unaided up the rugged path of learning, with but little to cheer him on the road, except the earnest purpose to proceed. Then a bright vision swept across his memory. He recalled the rescue of the wayward English child from the danger to which she had been exposed, and all the pleasant intercourse to which that incident had led, both with her and the Morton family. A shadow fell over his retrospect as he recalled the death of his fond old grandame, with all the loneliness of spirit it engendered; to which succeeded Mr. Donaldson's thoughtful project of his leaving home, and of his consequent very agreeable sojourn with his friend James Muir and his family, which had left so strong an impression on his mind and feelings. And then came the chance meeting with Mr. Baird, and soon after, his recognition by that benevolent protector of his infancy; more recently, the introduction to the duke, with all its present and probable results. Had he not ample cause for thankfulness? Should he murmur because one bitter drop seemed about to be mingled with that cup of blessings which had been held so continuously to his lips?

Archie went on to justify his discomposure to himself. Mr. Morton had been the first of a higher class of society who had noticed him and helped him on his way, and he owed him gratitude and respect for it, which he had anticipated the pleasure of showing in future years; but his esteem for Ellen Morton was deeper than this. He recognised in her the youthful good genius of his own boyhood, and in later years the only female of refined habits and cultivated intellect with whom he had ever intimately associated; consequently, the respect he had first felt for the child had strengthened with their long correspondence (which had developed her many good qualities), until he had installed her into the place which a sister might have occupied in his heart; a native good sense, which he possessed in perfection, had prevented romantic notions of a closer attachment taking root there.

He had always hoped to possess the friendship of the Morton family; and latterly he had expected to enjoy their society, to be allowed the privilege of being received as a friend and an equal, and to be invited to Mr. Morton's house as a welcome guest, according to Ellen's childish incentive and encouragement. All these pleasant prognostics seemed about to be realized by Archie's late rapid advancement in life, and the expected visit of his friends to Scotland; but now all was altered by the news of their intended Indian voyage.

"Was it not enough to vex and grieve him?" he soliloquised. "So much, too, as he had to say to Ellen—so many things as he wanted to confide to her and ask advice upon! And now years may pass away before we meet again; and even if ever we do meet, one or both of us may be changed!"

Archie felt a pang of shame and self-reproach as that last thought arose. "No," he exclaimed aloud, "I should never be so ungrateful. I shall never change in my grateful regard for the friend of so many years. Ellen Morton's happiness will always be my wish and my prayer, and if ever in my power to promote it, she shall know how true and sincere a friend she has in the lowly Archie Campbell."

Starting from his reverie, he turned towards the little cottage, where, in his own dear "little room," he sat down, and poured out his feelings on paper to his youthful friend, with a warmth and sincerity which made amends for the simplicity of the language he used.

As Archie returned to the castle, Mr. Baird was just descending from his pony carriage at the door, to whom his young friend immediately communicated the news of Mr. Morton's lucrative appointment, and of his own consequent and somewhat selfish sorrow.

"You must not indulge that feeling, my dear boy," said his old friend, somewhat reprovingly; "remember how many friends you will still have left in your native land; and even were you called on to bear a severer trial than that of temporary separation from those whom you justly value, copy the feelings and language of the holy man of old, who under the deepest affliction could say, 'Shall we receive good at the hand of the Lord, and shall we not receive evil?'"

And how felt Ellen Morton at this sudden change in her father's plans, and her own prospects? for we have not lately had an opportunity of noticing her conduct or her character. A brief sketch will be sufficient. Artless and ingenuous as ever, she added to these feelings a true maiden modesty which prevented their too great exuberance; her principles might be depended on, and sincerity and constancy were sure to be evinced wherever she professed regard or friendship. When the duke's first pressing invitation reached her father, she had expressed her delight, and an eager hope of its acceptance, adding artlessly: "The greatest pleasure I anticipate is in the expectation of seeing my friend Archie every day, who, I have no doubt, will be again the willing attendant upon my whims and wishes."

Her father looked grave, and said: "Do not think, my dear Ellen, that I wish to check your grateful feelings towards the young man who saved your life; but you must not forget you are no longer a child, and that the familiarity which was allowable between you and the gardener's boy nearly eight years ago, would now be impertinent on his side and degrading on yours."

His daughter's cheek flushed, and her eyes filled with tears.

"You need not have thus rebuked me, papa. I shall never, I hope, do anything to disgrace my station; but association with Archie Campbell will be more likely to elevate than to debase, and the time will come, or I am much mistaken, when

the shepherd's grandson and the lowly gardener will take a well-earned place amongst the gifted and the highly-born."

Mr. Morton felt the remark, but did not reply.

Thus Ellen's desire and resolution to renew and maintain her friendly intercourse with her former pupil and playmate, was abruptly interrupted. Just on the point of leaving for Scotland, Mr. Morton received a flattering proposal from a nobleman, about to proceed to an influential appointment in the East, to accompany him thither, as some very important government buildings were about to be erected, of which his lordship offered him the architectural details and superintendence, together with a permanent situation and a handsome salary; and, like too many, who give up the substance of present comfort for the shadow of future aggrandisement, he immediately accepted the offer, and wrote, as we have seen, to thank the Duke of A—for his flattering recommendation, which had procured it.

How merciful is the veil which hides futurity from our view!

VISIT TO A MUSEUM OF ANTIQUITIES.

WHEN lately in Edinburgh, we accompanied a friend to the Museum of the Society of Antiquaries. This society was founded in 1780, and its valuable museum has been formed under circumstances which do credit to Scottish liberality. The archaeological collections in other European cities are objects of national care, and in London and Dublin especially are maintained from the public money, while individual exertions and private funds have been the only sources of maintenance of a similar institution for Scotland, though its national antiquities are not inferior in interest or value to those of any country in Europe. We are glad, therefore, to learn that in lieu of their present rooms, which, though handsome, are too limited in size, the society expects the merited compliment of being accommodated with a suite in the Royal Institution.

In the limited space at our disposal we shall not attempt to give a detailed account of the exhibition. It contains articles of all ages and countries; but its extent and interest are appreciable only from actual survey, by which any one who has leisure to make it will be amply gratified, since, whatever can please the taste of an archaeologist, will be there found in abundance. We shall confine our account to some items which particularly attracted our notice, and which would, we think, be most interesting to the general visitor—objects remarkable less from their antiquity than their curious character, and the historical associations with which they are connected.

In a case which contains a variety of ancient keys, there is a large key fished up in Lochleven, in 1829. It is recorded that when Mary Queen of Scots escaped in 1568 from the tower, on an island in that lake, the ruins of which still exist, Douglas (the son of her keeper), by whose aid her escape was effected, after reaching with her the boat by which they got to the shore, cast into the water

the keys of the gates of the tower, which he had locked as they passed through them. At the close of the dry autumn of 1805, when the lake was very low, a boy, sauntering on its brink, fished up a bunch of keys, and carried them to the parish schoolmaster, by whom they were given to Lord Morton, the heritable keeper of Lochleven. They were very rusty, and were fastened to an iron ring, which mouldered away on being rubbed by the hand. There can be no reason to doubt that these must be the keys which were thrown into the lake by Douglas, and which in the course of nearly two centuries and a half had gradually drifted to its edge. The key in the museum had probably been once attached to the same ring, but had been worn off by the action of the water.

Near to this curiosity is a small relic, trifling in itself, but interesting from its having been a nail in the coffin of King Robert the Bruce. The identification of that coffin, and of the skeleton which was found within it, as having been those of that monarch, is one of the most perfect in history. It is known that he was interred in the cathedral church of Dunfermline, and tradition had marked a spot as that where his body lay. On opening the ground at that spot, there was found an oak coffin, coated with lead, which was twisted at the head into the shape of a crown, and a rich cloth of gold much decayed was thrown over it. It is a historical fact that, at his own desire, his heart was taken from his corpse, to be carried for interment in the holy sepulchre of Jerusalem. It never reached that destination, the bearer of it having been killed on the journey; but it was recovered, and is buried in Melrose Abbey. Now, on examining the skeleton which was in the coffin, it was found that, to get at the heart, the breast-bone had been sawn asunder, and, as Mr. Tytler says, "there remained, therefore, no doubt that, after the lapse of almost five hundred years, his countrymen were permitted, with a mixture of delight and awe, to behold the very bones of their great deliverer."

Among other iron relics we observed a singular ancient Scottish instrument of punishment, called the "branks." As generally used in Scotland, this word denotes the curb of a work horse, which use of the instrument had probably suggested something similar for the human species. "Within these few years," says Dr. Jamieson, "an iron bit was preserved in the steeple of Forfar, formerly used in that very place for torturing the unhappy creatures who were accused of witchcraft." In the catalogue of the museum it is said that "its most frequent and effectual application was as a correcter of incorrigible scolds;" and that which is shown seems well adapted for the purpose, being made of iron, so as to fit the head, and to be loosened or tightened at discretion, with a band in front which can be screwed to gag the mouth so tightly, that even Xantippe would have felt herself hopelessly dumb if subjected to its application.

In another case there is a heart of a calf stuck full of pins. It was discovered thirty years ago under the paved floor of an old house in Dalkeith, described as having been an "ancient chapel." A gentleman writing of it, at that time, says that

he had been told by an old woman, then above eighty, that when cattle were affected with disease, it was often imagined that the affection was induced by the malison of a witch; that, as a charm for effecting her punishment, a calf's heart was spitted and roasted at a slow fire; and that at every turn a pin was stuck in, by which it was held that the witch was made to feel the pain of a similar roasting and pinching. The heart with the pins in it was then placed secretly beside the ailing cattle, and was supposed to cure them.

We were next shown the "thumbikins," an instrument used chiefly in the trials of the Scottish covenanted, in the seventeenth century, and made to compress the thumb by a screw, so as to produce exquisite torture. It is said that this instrument, having somehow got into the possession of an Edinburgh police official, more than half a century ago, used to be applied by him to extort confessions from shop-boys accused of pilfering—a proceeding which, had it been exposed, would have subjected him to very serious punishment.

In another case is a brass collar, inscribed, "Alexander Stuart, found guilty of Theft at Perth, the 5 of December, 1701, and gifted by the Justiciars as a perpetual servant to Sir John Areskine, of Alosa." It appears from the work of Baron Hume, on the "Criminal Law of Scotland,"* that such a commutation of the punishment of death was not uncommon, and it was always accompanied by an order on the culprit to wear such a brass collar as that in the museum; but how the latter should have been found, as was the fact, in the Frith of Forth, in 1784, is not easily explained. We conjecture that either the wearer of it had been manumitted, and thrown it into the sea in the hope of destroying all trace of it, or that his relations may have done so after his death.

We next examined the Jacobite relics, and remarked in particular, the original address, engrossed on vellum, and bearing the signatures of one hundred and two chief cursitors and heads of Highland clans, transmitted in 1714 to be presented to King George I., on his accession to the throne; but which, it is said, having by court intrigue been intercepted in its progress, the clans, in resentment of a supposed neglect in acknowledging it, raised the standard of rebellion in 1715. There is placed in the same department—though strictly speaking it is not a Jacobite relic—the original inventory of the Scottish regalia, richly illuminated on vellum, attested by the signatures of the official cursitors by whom these insignia of national independence were, in 1707, deposited in the vaulted room in the Castle of Edinburgh, where they lay locked up till 1817, when the large chest which contained them was opened by a royal warrant. They are now placed on a table in the same room, and shown to the public not by daylight, but by lamp-light—a somewhat inexplicable

fashion, required, as it would seem, in the exhibition of regalia.

There are some detached articles sufficiently curious; e. g., a silk handkerchief of 1710, on which is printed an account of the battles of Barcelona, Oudenarde, Hochstadt, and Blenheim; a Perth bank note for five shillings, dated in 1765;† the dies of a forger in the reign of Charles II.; a pike, manufactured at the time of the "Friends of the People," in 1793; and a dark lantern and false keys used by Deacon Brodie, who was executed in Edinburgh in 1788, and of whose wretched career of crime we gave some account in a former article.‡ There is also a gown of sackcloth, anciently in use in a Scotch parish as an instrument of discipline and a provocative to repentance. In agreeable contrast with these, are the study chair of Sir Walter Scott, and a sextant inscribed with the name of Thomas Erskine, afterwards Lord Chancellor, and used by him when he was a midshipman in the navy.

There are some articles exhibited of a larger size, among which we particularly observed the banner of the covenanted borne at the Battle of Bothwell Bridge; the identical pulpit in which John Knox preached when minister of Edinburgh; and another curiosity, said to be the stool thrown by Jenny Geddes at the head of the Dean of St. Giles's in 1637, when, as he used the words, "we shall read the collect of the day," she, accompanying the exclamation by projecting the stool, cried aloud, "Tut, thou false thief, wilt thou say mass at my lug?" (ear.) That this scene took place there is no doubt, but we confess to some misgivings as to the identity of the stool; and from the manner in which it is mentioned in the catalogue, it is pretty clear that the genuineness of the article is not warranted by the society.

There are some specimens of what we remember to have once been common in Scotland, but now grown quite out of use—what was called a tirling pin or risp, and which supplied the place of a bell or knocker to the doors of dwelling-houses. It consisted of a thin iron rod of about a foot long, notched on the sides, on which a ring of the same metal was made to be moved up and down, and thus being placed outside of the door, the not very pleasant sound made by the ring on the notches, gave notice of the presence of a visitor.

Such of our readers as have perused the account of the Porteous Mob, in Sir Walter Scott's "Heart of Mid Lothian," may remember the circumstance there mentioned, that the mob, in carrying Porteous to execution, purchased the rope at a shop in the street called the West Bow. This singular and picturesque old thoroughfare has now almost entirely disappeared, to make way for what are very questionably called improvements, and the only recollection of the street now preserved is exhibited in the museum, being a grotesque Dutch figure which stood over the door of the shop where the rope was purchased.

There are shown in the museum two folio volumes of original documents, chiefly connected with Scottish history, from 1472 to 1717, and including autographs of James V., Queen Mary.

* The same author mentions other singular punishments used of old in Scotland, especially by feudal barons in their own courts. Thus, in 1697, Gordon of Gordonstown, in his court at Drainsy in Morayshire, sentenced a woman convicted of theft to be drowned in the loch of Spynie. This was stated in the first edition of Baron Hume's Treatise, published in 1798, and, in the second edition, which was published in 1819, he mentions that in 1811 the loch was drained, and a female skeleton, undoubtedly that of the poor woman, found in its bed, with a ring on one of the fingers.

† Five shilling bank notes continued to be circulated in Scotland till the beginning of this century.

‡ See the "Leisure Hour," No. 204, p. 745.

James VI, Charles I, Oliver Cromwell, Charles II, James VII, William III, Mary, Anne, etc., with those of Gowrie, Montrose, Monk, Lauderdale, Rothes, Argyle, Marlborough, Archbishop Sharp, Bishop Burnet, and several others. There is also exhibited one of the editions (for there were several of the same tenor signed) of the Scottish Solemn League and Covenant. The first signature to that in the museum is the Marquis of Montrose's, whose desertion of the covenanters at a later period was visited by his vindictive public execution in 1650.

In conclusion, we may notice a very conspicuous object presented to the society by the magistrates of Edinburgh in 1797, being the identical instrument of public execution called "the maiden," which was in use in Scotland in the sixteenth and seventeenth centuries. The first person known to have been executed by it was one of the inferior agents in the assassination of Rizzio; and besides other persons of the noblest and best blood in Scotland, there suffered by it the regent Morton (erroneously said to have been its inventor) and the Earl of Argyle, who said it was the sweetest maiden he had ever kissed. It consists simply of two upright posts surmounted by a cross-beam, and grooved for the purpose of guiding a knife, the back of which is heavily weighted by a stone, the obvious purpose being to make it fall swiftly and with force on the sufferer's neck when the cord by which it was held aloft was let go. Similar instruments of execution were common also of old in Italy and other countries of Europe, so that our neighbours the French seem to have no claim to the merit, if it can be so deemed, of its invention.

A personal inspection of the museum will show that very much is to be seen, which we can venture to do no more than mention. Antiquities of all ages, Greek, Roman, Egyptian, Anglo-Saxon, Mediæval, Indian, Mexican, and miscellaneous, weapons and implements of war, personal ornaments, pottery, skulls, mummies, bronzes, fossils, sculptures, shoes, rings, manuscripts, and, in short, an archaeological display of all kinds. The society, too, have published several volumes of interesting memoirs, well worthy of the attention of the antiquarian.

THE OVERLAND ROUTE TO INDIA.

NO. VII.—FROM ALEXANDRIA TO CAIRO.

ARRIVED at Alexandria, all are eager to land. An unexpected difficulty, however, unhappily appears. A box from Malta, insufficiently packed, bursts on the deck of our steamer; the cholera prevailing in that island, all intercourse is forbidden; the contents of this said box connect us with the proscribed island; we are declared contaminated, and refused *pratique*. The yellow flag is hoisted; who can conjecture how long we shall be detained? We knew it was a farce, and tried to take it as coolly as possible. All was soon set right. An Egyptian gentleman, who was one of our passengers, had in charge some splendid horses for the pasha. He intimated to the authorities that these horses would suffer if kept longer on board, and that he would not be responsible for the consequences! This was enough. In half an hour we were declared pure and free.

With heavy luggage, passengers have no trouble or concern; all is sent on to meet us at Suez; nothing is allowed with us save only the scanty supply necessary for personal use during our rapid transit through Egypt. We land amid confusion indescribable—dogs, donkeys, dragomans, equally numerous and annoying. The proffered help pertinaciously pressed upon you preponderates sadly on the side of hindrance. Manfully we fought our way through the mongrel crowd, and made for the town. Streets narrow and irregular, houses mean and miserable, here and there some lattice-work or a Saracenic arch, arrest the attention; but dinginess, dirt, and desolation, prevail. There is a change for the better, as you leave the Turkish quarter and approach that of the Franks. You enter a noble square where the flags of the different consulates are seen fluttering in the breeze. Here are the principal hotels. In the *Hôtel de l'Europe* I was glad to flee the insupportable tumult of which our arrival had been the innocent cause. Look from the window!—what a scene! Merchants of every colour, country, and kind; Copts, Greeks, Jews, Turks, Arabs, Negroes, Armenians, Maltese, with caps, pipes, canes, shawls, scarfs, fans, toys, antiquities *newly* manufactured, are all pressing bargains on the fortunate newcomer with overwhelming pertinacity. There are the Egyptian boys in crowds, with their famed Alexandrian donkeys; the sable colour, grinning white teeth, roguish bright eyes, clattering clamorous tongues, and never-ceasing antics of these striplings, proclaim each of them Topsy's veritable brother. The vociferous uproar without is felt so overpowering within, that every now and then an official from the hotel rushes forth with his *corbush* of bull-hide, and puts to flight his tormentors and yours. Then we have a climax of confusion; then a momentary lull; and again the nuisance becomes just as bad as ever.

Soon our party were scampering hither and thither to see the sights. As the sun was intensely hot, I remained for a time quiet at the hotel, musing on the fortunes of this once celebrated city. The shades of the departed who had lived and flourished here seemed to hover around me. Here Euclid wrote his "Elements," and taught Ptolemy his theory and problems. Here Apollonius wrote on Conic Sections, and first endeavoured to explain by cycles and epicycles the apparent retrograde motion of the planets. Here Eratosthenes, a second Plato, with splendid instruments in the Alexandrian library, accurately determined the extent and circumference of the earth long before the Christian era. Here lived several of the seven Greek poets, who, from their number and brilliancy, were called the Pleiades. The Apocrypha was written by Alexandrian Jews. To the synagogue in this place belonged some of those who disputed with the proto-martyr, and "gnashed on him with their teeth." Here the eloquent Apollon, Paul's companion and friend, was born. Here flourished Clemens Alexandrinus, and Origen the martyr, and Athanasius, the author of the celebrated creed, and Cyril, the patriarch, who died A.D. 444. Here, probably, Thecla, the noble Egyptian lady, wrote the *Codex Alexandrinus*, as the schedule annexed to it in the British Museum states, A.D. 328. I thought

VIEW OF CAIRO, COPIED, BY PERMISSION OF THE PUBLISHERS, FROM BARLIE'S "SIDE BOAT."



of Cleopatra and Cesar, Mark Antony and Pompey, Nelson and Napoleon: strangely did the ancient and the modern mingle in my waking dream.

When refreshed by rest and solitary musing, I set out to visit the "lions" of the place, so often described. On my return it was time to start for the Mahmoudieh Canal, my journey having been made before the opening of the railroad. Camels, carts, donkeys, and omnibuses were now in great requisition; whips cracking, dogs barking, men shouting, and Topsy-looking boys more teasing than ever, as now their time with us was short. There is nothing like patience and perseverance. In due time we were all on board. A small steamer took our boat in tow, and we set off for the Nile. We passed rather pretty villas and gardens, belonging to native and European gentlemen residing at Alexandria. To see family groups enjoying social intercourse in their trim verandahs, in the cool of the evening, in that land of dreary desolation, was not a little refreshing. One lady I observed with belts and gun accompanying two sportsmen, apparently as interested and, no doubt, quite as good a shot as either of her companions. It was a lovely evening; the air most balmy and exhilarating. Yet nothing could be more uninteresting than the banks of this canal as we crept slowly along. Here and there might be seen a solitary wanderer, a miserable hut, or a monotonous line of clumsy telegraphs; while on all sides a dreary sandy plain stretched as far as the eye could reach. The canal is about sixty miles long, nine feet broad, and eighteen feet deep. It is said 250,000 workmen were employed in its excavation. No implements were furnished to the poor slaves who dug it, and a very scanty supply of food; hence 20,000 perished during its construction, by accident, starvation, or the plague. It affords a melancholy example of what has been termed "a barbarian struggling into civilization." Mehemet Ali commenced it in 1819, and it was opened on the 24th of January, 1820. Now it is a thing of the past, in so far as the Overland Route is concerned, for the iron-horse of modern civilization hurries the passengers from Alexandria to Cairo.

As the night drew her sombre curtains around us, several ventured below to sleep in our confined cabin as they best could. I was too much afraid of the plagues of Egypt to be so bold, but wrapped myself up and dozed on deck. About midnight we reached Atfey, and exchanged our canal-boat for a smart little steamer belonging to the pasha. Here we met with considerable delay, and not a little amusement. The efforts of our Egyptian boatmen and their coadjutors were much more noisy than effective. Their grotesque appearance and abortive efforts, with the glare of torches amidst our Egyptian darkness, seemed greatly to interest some of our young cadets. Heartily did they join in the uproar. Some were barking like the dogs around; some were crowing like cocks; and soon all the cocks on shore, far and near, thinking it was early dawn, set up a general chorus; but long before day-break we were steaming away with great rapidity on the far-famed Nile. Most of the passengers were eager to secure a place below to rest their weary frame. I had

been warned of the abominations of the Nile-boat; and, dreading the minor plagues that still abound there, I persisted in keeping the deck. I still think I acted with commendable caution on this occasion. In the morning I asked a shrewd intelligent friend, when he came on deck, how he had fared below during his slumbers? "Well," said he, "it is something like what they say in the returns after a battle—I have been wounded severely, but not mortally."

Earnestly did I long for the dawn, that I might gaze on the novel scene around me. In due time I beheld as gorgeous a sun-rise as could well be imagined. Slight, gentle streaks of glimmering light in the east first arrested my eye. These, almost imperceptibly, became broader and brighter, intimating the approach of the great luminary. Magnificent clouds, now tipped and tinged with purple and gold, then changing into something like chariots and horses of fire, seemed as the advance-guard of the ruler of day. At length, a small bright cloud, at the very horizon, first sparkling like a diamond, then increasing till it blazed like a diadem of brilliants, announced the monarch nigh. Now he burst forth in his glory, "full-orbed with all his various rays complete." One could scarcely wonder that the Parsees regarded such an object with religious veneration.

All day we were making good progress. The Nile, a noble river, was overflowing the country. The Mussulmans say that the water of the Nile is so delicious that if Mahomet had tasted it, he would have prayed for a terrestrial immortality to enjoy it for ever. As we sailed along, it was thick and discoloured with slimy mud, laden, no doubt, with fertility to this barren land, but not over-inviting to those anxious to taste its "sweet waters." The voyage from Atfey to Cairo generally takes about twenty-four hours. In these small steamers no comfortable accommodation is provided for passengers. It was amusing enough to see us all performing our ablutions, and arranging our toilet as we best could, under the shadow of a paddle-box, or any other equally convenient position which the deck of our tiny craft could afford. How different our state, thought I, from that in which Cleopatra sailed the Nile when she met Mark Antony:—

"The barge she sat on, like a burnished throne,
Burned on the water: the poop was beaten gold,
Purple the sails, and so perfumed that the winds
Were love-sick with them; the oars were silver,
Which to the tune of *Intes* kept stroke, and made
The waters, which they beat, to follow faster,
As *amorous* of the strokes."

The fair ladies on our steamer had no pavilion of "cloth of gold, of tissue" to recline in; no "pretty dimpled boys" to wait on them. Still, we fared not amiss, and none complained. We had only to look at the wretched hovels and wretched people, wherever we passed, to feel thankful we were so rapidly hastening through this dreary land. Mud walls, with puny towers of the same poor material, to protect them from the Bedouin; huts, compared with which an Irish cabin is a palace; a few date trees; curious doves-cots; miserable mosques with paltry minarets; all seemed desolation. The appearance of Egypt, however, differs much at different seasons of the

year. It has been said the valley of the Nile is covered with a carpet which, according to the season of the year, is either "a silver wave, a verdant emerald, or a golden harvest."

We passed many places interesting through association with the past, though in themselves scarcely worthy of notice. Founah, where the tarboosh, or red caps, which rich and poor are compelled to wear in Egypt, are made, was once taken by the Crusaders, who penetrated thus far into Egypt. Sais, once a royal town, leads the mind back to a period previous to the Persian invasion under Cambyzes. The advance of the British and Ottoman armies in 1801, from Alexandria to Cairo, was along those shores. The sufferings and successes of that expedition are well-nigh forgotten. Near the place where the Rosetta and Damietta branches of the Nile meet, we passed Rameses, whence the Israelites took their departure for Succoth and Etham on their way to the Red Sea. We passed the unfinished works for the barrage of the Nile. The object of this stupendous undertaking is to retain the water of the river, and use it for irrigation, after the yearly inundation subsides. Whether it will ever be completed seems doubtful. Here we got our first view of the pyramids. They were at an immense distance, but their outline was clearly defined. One looks at these stupendous monuments of bye-gone centuries with bated breath and awe, as you do when, for the first time, your eye rests on the Alps. A small party at the bow of our steamer, gazing on the pyramids from afar, were led into an animated discussion respecting the seven wonders of the world in olden times. What were they? Where are they? What deserves that appellation in our wondrous days? Night closed upon us. The scene became more and more exciting. We passed the pasha's palace at Shoobra. At length, to our great joy, we landed at Boulac, the port of Cairo. We had two miles to travel by land to the city; but what confusion ere we could start! Donkey-boys, and Arab porters, and torch-bearers, and hotel-keepers, and van-drivers, camels, horses, dogs—what a Babel! We rushed into an omnibus, and ere long set off at a gallop, torch-bearers running alongside, the glare from their truly original flambeaux enabling us to see through the gloom; high walls, huge cactuses, noble trees, and a broad, dusty, winding road leading to the capital. Suddenly we drew up at one of the city gates. The sentry, probably fast asleep till our advent roused him, was in no hurry to grant us admission. But the massy gate at last did open, and we entered "Great al Cairo," the city of Saladin and of the Arabian Nights. We drove up to the Great Square, and sought rest and refreshment at the British Hotel.

GEORGE STEPHENSON.

PART I.

TEN years ago, when George Stephenson was an old man, crowned with honours and enjoying that dignified repose which he had so deservedly earned, he was persuaded to address a meeting in the hall of the Mechanics' Institution at Leeds.

It was the last public meeting he ever attended, and the address he delivered to the crowd of workmen who had assembled to do honour to their great fellow-mechanic, contains in a few words the epitome of his long life's experience. After telling them of his early life and of the twenty years of labour which, commencing at one or two o'clock in the morning, did not end until late at night, he concluded: "I stand among you but as a humble mechanic. I have risen from a lower level than the meanest person here, and all that I have been enabled to accomplish in the course of my life has been done through PERSEVERANCE."

This was his favourite text—one upon which he never failed to enlarge in the company of working men, illustrating it with the experience of his own life. And as we trace George Stephenson's eventful career of sixty-seven years, accompanying him with the aid of Mr. Smiles' admirable biography, recently published, from the time when he was a poor cow-boy on the fields of Northumberland until he reached one of the highest and most distinguished positions to which honourable labour can attain, we shall see that "to persevere" in a good cause meant with him, as it may mean with all others, "to succeed."

In a little colliery village, some eight miles west of Newcastle-upon-Tyne, consisting of a few cottages, and a huge gaunt pumping-engine embedded in heaps of coal and slag, was born in the year 1781, of poor parents, "who had very little to come and go upon—honest folk but sore baulded doon in the world"—one who was destined mainly to effect a great social revolution in the world. "Geordie Stevie," by which name he was familiarly known during more than half his life-time, was one of eight children. His father, fireman of the old pumping-engine, which is still remembered by some of the villagers of Wylam, as standing "until she grew fearsome to look at," whose wages seldom reached and never exceeded twelve shillings a week, was far too poor to give his children schooling. But he was a sober, industrious, and well-disposed man, and his wife was acknowledged to be "a rare canny body"—in Northumberland, the highest praise to which any woman can aspire; and if Geordie was almost a man before he could read or write his name, his duty to God and to his neighbour were lessons early and firmly impressed by precept and practice upon his mind.

A poor man's child must enter early into the battle of life; and while Geordie was a mere infant, he found employment in keeping a neighbour's cattle from straying upon the iron tramroad along which the coal-waggons were drawn from the pit's mouth to the quays by the river-side. But in the intervals of cow-keeping, which were not devoted to bird-nesting and other childish amusements, he was generally to be found by the burnside, modelling engines of clay, with stalks of hemlock for imaginary steam pipes. And just as we recognise in Pascal drawing geometrical figures upon the sanded floor of his parent's hut—in Davy fitting up a laboratory in his garret, of old gallipots and worn-out domestic utensils—and in Smeaton fixing a tiny windmill on the roof of his father's cottage—indications of their future fame; so in little Geordie Stevie's essays in modellings by Dewley burnside, may we trace the birth of that

mechanical ingenuity for which the future railway engineer was so eminently distinguished.

As he grew older, he was set to hoe turnips, to lead the horses while ploughing, to work at the pit-mouth as corf-bitter or picker, and ultimately as driver of a gin-horse. Some of the old people at the Black Callerton Colliery still remember him at this time as "a grit bare-legged laddie, very quick-witted, full of fun and tricks, and foremost in the sports and pastimes of youth."

When he was fourteen years of age, he was appointed assistant in firing his father's engine, at the wage of one shilling a day. He was so young for this work, that when the owner of the colliery came round, Geordie used to hide himself from his sight, lest he should be thought too small to earn so large a sum. His chief object of ambition seems to have been to become an engine-man; and when, a few years later, his perseverance and industry had earned him this position, he announced the fact to his fellow workmen, adding triumphantly, "I am now a made man for life."

But his success, far from causing him to relax in his habits of industry, only served to stimulate him to fresh exertion; and the mechanical taste which had led him to model clay engines on the banks of Dewley Burn caused him, now that he had a real engine to study, to spend many hours after the day's work was over, taking it to pieces, cleaning it, and mastering its details—making of it, in fact, a companion and a pet. An engine, always attractive to the mere beholder, becomes to the mechanic in whose charge it is, a thing of care and love. There is a charm in its society which the roughest yield to. The huge, mute, powerful worker, obedient to its master's lightest touch, exerts an influence over him which is wonderful and sometimes touching. Many of the engine-men speak of their engines with pride and affection, boasting of their strength and power, and defending them against rivals, with strange jealousy and zeal.

George Stephenson was now eighteen years of age. Perseverance had won him a position above his father, who was acting as fireman to the engine under his son's charge. He was earning fair wages. Young and active, he was famous among his comrades for excelling in those athletic sports which were, and still are, among the chief amusements of a colliery district. But while too many of his companions were spending their spare time and money in drinking-bouts, gambling, and dog and cock-fighting, Geordie Stevie was busy mastering the next step of his onward progress.

It was a difficult one, requiring a strong heart to master it. He could neither read nor write. He stood on the very threshold of manhood, more ignorant than many a child whose head reached no higher than his waist. The discoveries of Watt and Bolton, the many experiments which scientific papers and magazines recorded, were all closed against him. He must either learn to read and write, or see the future barred against his progress. And while many would from shame, impatience, or want of time (for he worked twelve hours a day) have shrunk from undertaking such a task, Geordie at once devoted all his leisure to its accomplishment. He was not ashamed—bearded man as he was—to learn his letters and

practise pot-hooks at the village school of Newburn, until he found a better instructor in a poor Scotch dominie, who, for fourpence a week, gave him lessons in the rudiments of education. And so, by the time he was nineteen years of age, he contrived to spell and write his name correctly, and commenced the study of arithmetic, "taking to figures," as one of his fellow-workmen still remembers, "wonderfully"—working out the sums set him overnight beside his engine fire, and sending a boy with the slate to the dominie for correction and fresh questions.

At twenty years of age, Geordie Stevie was a big, raw-boned, hearty young fellow—a steady, sober, and expert workman, able, so he thought, to support a home of his own. To render this possible, he did not hesitate to take in hand any extra work he could obtain—making and mending the shoes of his fellow workmen, and turning an honest penny in many other ways. And, before long, his perseverance enabled him to furnish a small cottage as a home for his young wife.

We have no space to follow his upward career step by step, although each one is instructive. We must tell shortly how the leisure hour, which others spent in degrading amusements or self-indulgence, was devoted by Stephenson to the pursuit of knowledge. The winter evenings were passed with his young wife, studying the principles of mechanics, making mechanical experiments and modelling machines. He had still to work hard for his daily bread, both before and after the hours of labour at the coal-pit. He was glad to earn money by making and mending shoes, by manufacturing lasts, by cleaning and repairing clocks (he soon acquired the reputation of the best clock-doctor in the country side), and even by cutting out the clothes of the miners, who still call a certain fashion, "Geordie Stevie's cut." No opportunity that could be made available for profit or instruction was allowed to escape; for before long he had another incentive to labour in the little child—destined to occupy a position in the scientific world scarcely inferior to his own—who shared the chimney-corner with his young wife.

But that chimney-corner was soon to become desolate. A season of trial was rapidly approaching. First, his wife died while her only son was a mere infant; and Stephenson, bereaved and perhaps restless, accepted gladly an engagement in a Scotch mine, leaving Killingworth for the north on foot, with his kit upon his back. He stayed there some time, and, having saved a considerable sum of money, returned to his old employment and the society of his child. But misfortune had not yet done with him. His father was by an accident rendered blind and helpless, and of Geordie's little savings more than one half went to pay his debts and settle him in that home which his son supported out of his weekly wages; the times were hard; the long and terrible war pressed heavily upon all classes, making provisions dear, and claiming ten per cent. of Stephenson's wages; and, drawn for the militia, he was obliged to purchase a substitute with the remainder of his hard-earned hoard. At last his courage failed him, and he resolved to start for America. Strangely enough, the severity of his misfortunes and his utter poverty saved him. Had not his little hoard been

thoroughly exhausted, he would have left the country with some of his relatives, who crossed the Atlantic. Very wonderful are the ways of Providence! "You know," he said to a friend, years after this season of trial, "the road from my house at the West Moor to Killingworth. I remember when I walked along that road and wept bitterly; for I knew not where my lot would be cast." Widowed, ruined, weighed down by a variety of misfortunes, he had no notion—how should he?—of the future for which Providence was wonderfully reserving him, nor of the precious uses of that adversity which seemed so hard to bear.

In time the tide turned, and Stephenson, perfect master of the details of the engines then in use, was ready to turn to practical account the opportunities which presented themselves of applying his knowledge and skill. As he had become the most famous clock-doctor in the countryside, so now he was called in to prescribe for the clumsy, ill-constructed steam-engines which pumped the water from the pits, or drew the wagons along the uneven tramroads; and a few marvellous cures soon gained him an extensive reputation. One success in particular, which laid the foundation of his future fortune, deserves to be recorded.

An atmospheric pumping engine had been fixed at the mouth of a pit in the neighbourhood of Killingworth; but although it was kept working for nearly twelve months, in the miners' own words "she could not keep her jack head in water; all the enginemen in the neighbourhood were tried, but they were clean bet." Stephenson had watched the engine carefully from the beginning, had noted its defects at the time of its erection, and had, during the twelvemonths of failure, frequently walked over to inspect it, or made inquiries from the pitmen of the neighbourhood, always receiving the same answer, that they were still "drowned out." At last, when it was determined to give up the attempt, Stephenson paid another visit, and, inspecting it yet more closely, satisfied himself as to the reasons of its failure. "Weel, George," said a bystander, "and what do you mak o' her? Do you think you could do anything to improve her?" "Man," was the confident reply, "I could alter her, and make her draw; in a week's time from this I could send you to the bottom."

This conversation was reported to the head viewer of the mine, and, all other means having failed, the humble engine-doctor of Killingworth was sent for. "They tell me," said the viewer, "that you think you can put the engine at the High Pit to rights. If that's the case, I'll give you a fair trial. We are clean drowned out, and cannot get a step further. The engineers hereabouts are all bet, and if you really succeed in accomplishing what they cannot do, you may depend upon it I will make your fortune."

George accepted the challenge, selected his own assistants—the regular enginemen being somewhat jealous of their more clever brother—took the engine to pieces, enlarged the injection-cap, shortened the cylinder, and made several other alterations, which altogether occupied four days; and in two more the pit was cleared of water, and the miners sent to the bottom. And thus his fame as

a pump-curer became firmly established, and all the old wheezy, asthmatic, and ineffective pumping machines in the neighbourhood were put under his care.

He still, however, found leisure to model steam and pump-engines, to attempt to penetrate the mysteries of perpetual motion, and to clean and repair his neighbours' clocks and watches. He varied these recreations with the study of arithmetic—the Rule of Three not having been mastered until he was thirty-three years of age—and, occasionally, of chemistry and natural philosophy. He still lived at Killingworth, in a little cottage—"a curiosity-shop of models, engines, self-acting planes, and perpetual motion machines." He spent his few hours of recreation in his garden, cultivating gigantic leeks and cabbages, the wonder of the village, or inventing odd and ingenious contrivances which puzzled his neighbours sorely, whose cradles he made self-rocking by connecting them with the smoke-jacks, and to whose clocks he attached alarms. He was still a strong muscular man, zealous in engaging in trials of strength and agility with his fellow-workmen. The competitive element in his nature was strong, and disposed him to measure his strength, whether physical or intellectual, against all. And few, if any, could lift such weights, or throw the hammer and put the stone so far, or cover so great a space at a standing or a running leap. It led him sometimes to deeds of rash and useless daring; for one day a fellow-workman challenging him to leap from one high wall to another with a deep gap between them, George, without a word, took the leap standing, and cleared the distance—eleven feet—at a bound. But, had his eye been less accurate, or his limbs less agile, the attempt might have cost him his life. The pitmen of Killingworth and the neighbourhood still retain many such recollections of Geordie Stevie's daring and skill in every occupation to which he turned his busy and ingenious mind; and his years of labour among them, and his subsequent success in a larger sphere, in which he was soon called to do his work, are favourite topics of conversation in the mining districts of the north of England.

In the year 1812, Stephenson, then thirty-one years old, became engine-wright of the colliery of Killingworth, and inspector of the other mines in the neighbourhood belonging to the same owners. He was now relieved from manual labour, and had the command of greater leisure to devote to his favourite pursuits. In this position he passed the next ten years of his life, studying closely the properties of the locomotive engine, then regarded as a curious and costly toy of little practical use, and superintending the education of his only son, fast growing into manhood. Stephenson, who allowed no opportunity of acquiring knowledge to escape him, accompanied his son in his studies closely. And when he was old enough, he entered him a member of the Newcastle Literary and Philosophical Institution; reading the books of science which the boy brought home on Saturday afternoons, and teaching him to make notes of, and sketches from, the more valuable works which were not allowed to leave the library table, for their mutual study. Their connection with this institution also brought them

into communication with some gentlemen, who, struck with the elder Stephenson's unwearied pursuit of knowledge under difficulties, were pleased to help one who helped himself so bravely.

And yet this self-teaching was a weary and laborious task, and one whose difficulties a working man of the present day might find it hard to estimate. Fifty of the most important years of our nation's history have cleared away many of the obstacles which once hindered the poor man's onward path; and George Stephenson, before he died, was able with pleasure to point to the unspeakable advantages which the mechanic of to-day possesses compared with the workman of his youth. Working men's and mechanics' institutions, in whose establishment the humble engine-wright of Killingworth was permitted to take no unimportant share, are freely established for his benefit; but Stephenson used often to say, he could well remember a time when a good library of books would have been invaluable to him.

We have no space to describe step by step the discoveries made by George Stephenson during the last ten years of his life at Killingworth. The most important was his construction of the locomotive, or "travelling engine," as he used to call it, for hauling the coals from the pit mouth to the quays or "shipping straths" on the Tyne, several miles distant.

The idea of employing steam power to move carriages had occupied many ingenious minds, from the time of poor Solomon de Caus, who expiated the crime of being in advance of his age in a cell of the Bicêtre at Paris. Savery, the Cornish miner, had declared it possible; very likely Watts would have proved the assertion correct, had he possessed sufficient leisure to undertake the task. Americans and Frenchmen had actually modelled steam carriages, while Trevethick, another Cornish man, and one of the most unfortunate of inventors, had publicly exhibited one in action in the metropolis. Still the public regarded them as fanciful toys, and some colliery owners, who commissioned Trevethick to construct locomotives for use on their tramroads, only provoked their neighbours to quote the old saw of a fool and his money being soon parted.

But Stephenson, impressed with the necessity of providing a more economical method of conveying the coals from the pit mouth, had studied attentively the clumsy locomotives in use in the neighbourhood of Killingworth, and at length considered himself justified in asking the lessees of his colliery to assist him in the construction of one. Lord Ravensworth, the principal partner, listened to his proposal with favour, and on the 25th July, 1814, George Stephenson's first locomotive engine was at work on the Killingworth railway.

But the most sanguine could scarcely call "My Lord," as Stephenson designated his engine, or "Blucher," as the pitmen termed it, a striking success. Its speed did not exceed a horse's walk—three miles an hour; without springs and cumbersome, its joltings deranged the machinery; while its working expenses were so great as to render it less economical than horse power. The result, indeed, was unsatisfactory, and the engine would most likely have been condemned, had not Stephenson, at this juncture, applied the steam-blast, by

which combustion was stimulated, the capability of the boiler generating steam increased, and the effective power of the engine doubled without adding to its working expenses. And profiting by his experience—noting "My Lord's" defects only to apply remedies—George Stephenson, in the following year, took out a patent for a new engine, which may be regarded as a type of the locomotive now in general use.

We have now traced one half of George Stephenson's life. He was still lowly in position, but experienced, and ready for the accomplishment of the great mission of his life—the establishment of the railway system of England and of the world. How he entered upon that task, and through what struggles and difficulties he conducted it, on his old principle of perseverance, to a triumphant issue, we must tell in another number.

A CREATURE NOT GENERALLY KNOWN.

AMONG the specimens of animated nature brought to this country from South Australia, when that vast region was first investigated by Europeans, the most remarkable of all was the curious and interesting animal to which science subsequently gave the name of the *Ornithorynchus paradoxus*. Arriving in Europe in a sort of dried mummified condition, and presenting a rather unintelligible and contradictory appearance, combining the characteristics of bird as well as beast in one small frame, it excited the suspicion rather than the admiration of the savans, who for some time regarded it in the light of an ingenious hoax played off by some practical wag for his amusement and their perplexity, and not as a production of nature at all. All such suspicions, however, were speedily dissipated, as well by the arrival of fresh specimens, as by the reports of accredited travellers, and the little stranger was found really to be what his paradoxical aspect, which was so suspicious, had suggested that he might be—namely, a connecting link between the bird and the quadruped.

Sinking his long and learned name, we shall call him by that which designates him in his native land, where he is known among the diggers—being himself a digger of no mean repute—as the water-mole. By the aborigines of the country, who hunt him as an article of food, he is called wallan gong. In size, the water-mole of Australia, when full grown, averages from eighteen to twenty inches in length; and when seen out of his burrow and running on the ground, which is but rarely, presents so uncouth and strange an appearance, that a dog, unless he have been trained to hunt him, will shrink from contact with him. This terror which the creature inspires seems to be almost his only protection, for he is perfectly harmless, and destitute of the means either of assault or defence. His body is depressed like that of the English mole, or the otter, and is covered outwardly by a dense dark brown hair, beneath which lies a thick vest of short fur, exceedingly soft to the touch, both the hair and the fur of the abdomen, breast and throat, being much more soft and silky than those of the back and parts most exposed. The entire under-surface of the body is of an iron-grey colour, varying in

depth of hue with the age of the animal. The head is flat like that of a water-fowl, and two mandibles project from the mouth, showing like the beak of a duck artificially joined to the mouth of a young otter; the lower mandible is smaller than the upper one, and its internal edges are channelled with *striae*, like those of a duck's bill. The legs are extremely short, so that, when its motions are observed from a distance, the animal seems to glide rapidly along the ground without feet. It has five toes to each foot, and the feet are webbed, the web of the fore feet extending some distance beyond the claws, evidently for the purpose of rapid swimming or diving, while it is capable of being withdrawn into the rear and out of the way, when the sharp claws are employed in the action of burrowing. The eyes are small and of a light brown colour, but exceedingly brilliant; they are placed high up in the head, and at the upper part of their external angle is the orifice of the ear. The male animal is slightly larger than the female.

The water-moles are seen in the Australian rivers at all seasons of the year, but are most abundant during the spring and summer months. When in the water they present far from an attractive appearance, resembling rather a mass of dirty weeds than anything living, and would escape observation but for their paddling motions, which, however, they rarely make save when swimming against the stream. While swimming, they are frequently hunted and shot for sport by the settlers; but they are extremely shy and wary—will disappear at the slightest alarm, the waving of a hand or the motion of a gun-barrel—and often, when wounded, they will rise for breath after diving, out of sight of their pursuers, among the reeds and rushes, and thus escape. When captured alive, the animal makes the most vigorous efforts to regain its liberty, and is retained with difficulty, owing to its great muscular strength and the thick mass of fur and hair in which it is enveloped; but it makes no attempt to bite, confining its protest against captivity to a powerful struggle and a low growling noise.

The water-mole burrows in the bank of the river, sometimes excavating to a considerable distance from the shore, but never to any great depth beneath the soil. There are generally two entrances to the burrow—one above the surface of the water, and one beneath: but this rule does not appear to be without exception. The nest is always at the termination of the burrow, and for the most part within a few inches of the earth's surface. The female gives birth to from two to four young ones at a time. She suckles them for a certain period, but soon begins to feed them with insects, which she mixes with mud and slime, until they are sufficiently strong to take to the water and provide for themselves.

A traveller who, with the assistance of a native, explored one of these burrows, had to rip up its windings, for a distance of thirty-five feet, before he came to the nest. He expected to capture both the mother and her young; but in this he was disappointed, the parent being absent, probably on an exploring expedition. The approach to the nest was signalled by a portentous growling, but the family made no attempt to escape. They con-

sisted of two full-furred young ones, coiled up, and growling exceedingly at the unwonted intrusion. They were male and female, and measured ten inches in length from beak to tail, and were beautifully sleek and delicate in appearance. The nest consisted of dried river-weeds, the thin slough of reeds, and small dry fibrous roots of plants, all strewed on the floor of the cavity, which was of ample area for the mother and her young. The young were taken away, and not long afterwards the blacks captured the mother, who was in a ragged, wretched, and miserably weak state, shorn of her fur, and wounded with routing and foraging for her young, whom she had maintained in such fat and plump condition. The young were similar in colour to the old, but of a lighter tinge, and the under surface of the lower mandible was of a beautiful pink.

They were all three taken away and placed in a box, where they seemed happy and content. They would sleep in various positions; sometimes stretching themselves out at full length, sometimes rolled up like a hedgehog—in the form of a ball. One would lie curled up like a dog, keeping its beak warm with the flattened tail brought over it; another stretched on its back, the head resting, as on a pillow, on the body of the old one, which lay on its side—all fast asleep; but to lie rolled up in the form of a ball was the favourite position. This was effected by placing the fore paws under the beak, the head and mandibles bent down towards the tail, the hind legs crossed over the mandibles, and the tail being turned up to complete the rotundity of the figure.

They would submit to be handled gently; but if the mandibles were touched, they darted away immediately. The young were permitted to run about the room; but the old one did so much damage by burrowing, when let loose, that she had to be kept in durance. She would remain quiet in the day-time, but at night was restless and eager to escape. The young, when asleep, seemed often to dream of swimming, and were seen to move their fore paws, as if in the act. They would go to sleep anywhere, usually side by side, like a pair of furred balls. Awful little growls would issue from them when disturbed; but when once fast asleep, they might be handled and examined without any such responses.

These creatures were fed with sopped bread, chopped egg, and minced meat, drinking with equal relish of either milk or water. When in different parts of the room, they would call each other by a faint squeak, which would be answered by a similar note and an immediate rush by the one called to the spot whence the signal issued. It was ludicrous to see the creatures yawn—opening their bills, stretching out their paws, and extending the web of their feet to its utmost width. One thought involuntarily of seeing a duck yawn. When running, owing to the situation of their eyes, they could not very well see objects in a straight line, and consequently ran against everything that lay directly in their path. They enjoyed being scratched and tickled with the finger, as a dog would, and would playfully bite at the hand thus caressing them.

They performed the duties of the toilet by combing themselves all over with their hind feet, and

they would further peck their fur with their beaks, just as a duck would its feathers. If put into a pan of deep water, they were eager to get out; but when the water was shallow, with a turf of grass in one corner, they enjoyed it exceedingly. They would then sport together, pecking at, and wrestling with, each other, rolling over in the water in the midst of their gambols, and when tired of the fun would lie combing themselves till their fur grew bright and sleek. The cleansing process concluded, they would perambulate the room for a short time, and then coil up and go to sleep. They would seldom remain longer in the water than ten or fifteen minutes at a time.

This artificial mode of existence, however, did not long agree with the water-mole. After an experience of a few weeks, their coats began to lose the sleek and beautiful appearance which caused them to be so much admired by all who saw them; and they lost their appetites, though they still retained their liveliness of demeanour. But at length this began to abate. When wet, their fur became matted, and would not dry as readily as before. They lost their sleek and plump appearance, and began to excite commiseration instead of applause. Before five weeks had elapsed from the date of their captivity, they both died—the female first, and the male a few days later; and thus were frustrated the expectations which had been entertained of conveying them to England.

NEVER DESPAIR.

MANY of our readers have heard the anecdote of the cool composure and resignation of Sir Isaac Newton, when his little dog overturned a lamp, and burned up his papers, the fruits of many years' labour. But they may not be so familiar with a similar anecdote (since proved apocryphal) of Audubon, when his valuable drawings had been destroyed by Norway rats.

Returning from Philadelphia, after an absence of several months, absorbed in the newly-found delights of home, he failed to inquire the fate of a certain wooden box, which, before his departure, he had intrusted to the care of a relative, with the strictest injunctions as to its safety. At last, on interrogation, this treasure was produced, the dearly-prized deposit of all his drawings, more cherished than a casket of rarest jewels. It was opened, and what was Audubon's dismay to perceive the misfortune which had befallen it! A pair of Norway rats, having taken possession and appropriated it, had reared there a whole party. A few gnawed bits of paper were the only remains of what, a few months before, had been a thousand marvellous representations of the curious inhabitants of the air. The shock of such a calamity was too much even for the fortitude of Audubon. Like an electric stroke, it thrilled his whole nervous system, and for some time caused the entire prostration of his physical powers. A burning heat rushed through his brain on the discovery—the discovery of the entire wreck of the result of all his efforts and his patience. For nights he could not sleep, and days were passed with listless apathy, till at length invigoration of mind and frame gradually, under kindly influences, returned. He once again took up his pencils, his notebook, and his gun, and went forth to the woods. Then, consoling himself with the reflection that he could make much better drawings than before, he persevered untiringly for three whole years, until his portfolio was replenished.

HOLD FORTH THE WORD.

WE remember to have read a traveller's conversation with the keeper of the lighthouse at Calais. The watchman was boasting of the brilliancy of his lantern, which can be seen ten leagues at sea, when the visitor said to him, "What if one of the lights should chance to go out?" "Never; impossible," he cried, with a sort of consternation at the bare hypothesis. "Sir," said he, pointing to the ocean, "yonder, where nothing can be seen, there are ships going by to all parts of the world. If to-night one of my burners were out, within six months would come a letter—perhaps from India, perhaps from America, perhaps from some place I never heard of—saying, such a night, at such an hour, the light of Calais burned dim, the watchman neglected his post, and vessels were in danger. Ah! sir, sometimes in the dark nights in stormy weather, I look out to sea, and I feel as if the eye of the whole world were looking at my light. Go out? burn dim? O never." Was the keeper of this lighthouse so vigilant; did he feel so deeply the importance of his work and its responsibility; and shall Christians neglect their light, and suffer it to grow dim—grow dim when, for need of its bright shining, some poor soul, struggling amid the waves of temptation, may be dashed upon the rocks of destruction? No. "*Hold forth the word of light.*" This is the way to save souls. "*Holding forth the word of life,*" says the Apostle; why? "that I may rejoice in the day of Christ, that I have not run in vain, nor laboured in vain."

"For sadder sight the eye can know,
Than proud barque lost, or seaman's woe—
The shipwreck of the soul."

FABLES FOR THE YOUNG

THE OLD LINNET AND THE HEMP-FIELD.

A LINNET, observing the husbandman's hand,
How it scatter'd the hemp-seed about on the land,
Ask'd the little birds round him if they were aware
For what fatal purpose he planted them there.
"Do you know," exclaimed he, "half the ill of our race
To the mischievous growth of the hemp-seed I trace?"

"For instance, the strings made in rope-makers' walks
Are all manufactured with flax from its stalks;
And the twine which the bird-catcher weaves for his snare,
So destructive and fatal to fowls of the air;
Oh how many young birds have entangled their wings,
And been caught in the web of those treacherous strings!"

"If you follow, my comrades, the course I advise,
You'll escape the dark plots which these fowlers devise;
Go and gather the seeds up before they can shoot,
Allow them no time in the soil to take root;
You'll defeat, by this means, the contrivance of man,
Who the weak feather'd race by his arts would trepan."

The birds disbelieving the truths which they heard,
Neglected the hints of the cautious old bird;
On their future condition bestowing no care,
As they carelessly sported about in the air;
The hemp-plant, the meanwhile, more rapidly grew,
Disclosing unheeded its blossoms of blue.

The old linnet perceiving his counsels were vain,
To the city repair'd for his safety again;
When on skimming along by the side of the street,
Just the same flock of linnets he happen'd to meet,
In cages confined on the bird-catcher's head,
Their feathers erect and all ruffled with dread.

"Unfortunate wretches," he said, with a sigh,
"Poor captives, shut out from the free, open sky;
Had you shown more precaution and listen'd to me,
On the heath-flower'd mountains you still had been free:
Now sigh in your bondage with useless regret—
Bear the punishment due to your former neglect."

Like the linnet, I warn you, my readers, beware,
Be suspicious, wherever you tread, of a snare;
Your enemy walks on the earth "to and fro,"
The seeds of destruction around him to sow;
Go and gather them up ere the evils arise,
Nor "the day of small things," like the linnets, despise.

ELLEN ROBERTS.